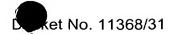
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## What Is Claimed Is:

- 1. A method of making a plurality of microbar encoders, the microbar encoders having a characteristic detectable signal and capable of linking to a probe molecule, comprising:
- (a) depositing one or more layers unsupported by a template, each layer comprising a transducing material, and
- (b) dividing the deposited layers into the plurality of microbar encoders,
- wherein the plurality of microbar encoders have substantially identical characteristic detectable signals.
  - 2. The method of claim 1, wherein the method further comprises:
  - (c) detaching the microbar encoders from the substrate.
  - 3. The method of claim 2, wherein the method further comprises, prior to depositing the one or more layers in the stack, depositing a removable layer directly onto the substrate and, after dividing the stacked layers, removing the removable layer from the substrate, wherein removing the removable layer frees the microbar encoders.
  - 4. The method of claim 1, wherein the layers are deposited by coextrusion.
- 5. The method of claim 1, wherein the transducing material produces the characteristic detectable signal by electromagnetic emission or absorption.
- 6. The method of claim 1, wherein the transducing material is selected from the group consisting of an organic dye, an inorganic phosphor, a metal-organic phosphor, a fluorescent dye, a pigment, a scattering or absorbing powder, a three-dimensional photoluminescent dendrimer molecule, and combinations thereof.

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- 7. The method of claim 1, wherein the transducing material is a quantum dot.
- 5 8. The method of claim 1, wherein the probe molecule is capable of binding with a target molecule.
  - 9. The method of claim 8, wherein the probe molecule or the target molecule comprises a biological molecule.
  - 10. The method of claim 9, wherein the biological molecule comprises a nucleic acid molecule.
  - 11. The method of claim 9, wherein the biological molecule comprises a monoclonal or polyclonal antibody.
  - 12. The method of claim 8, wherein the probe molecule or the target molecule comprises a small molecule.
- 20 13. The method of claim 1, wherein one or more of the deposited layers comprises a polymeric matrix.
  - 14. The method of claim 1, wherein the deposited layers are divided by dicing or laser ablation.
  - 15. The method of claim 1, wherein the deposited layers are divided by mechanical punching.
- 16. The method of claim 1, wherein the deposited layers are divided30 using photolithography.
  - 17. The method of claim 16, wherein the deposited layers are divided by depositing a patterned mask layer over a surface of the deposited

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layers, the mask layer protecting a portion of the surface of the deposited layers, and etching through an unprotected portion of the surface of the deposited layers.

- 18. A method of making a plurality of microbar sensors comprising:
- making a plurality of microbar encoder according to the method (a) of claim 1 and
  - (b) linking a probe molecule to the plurality of microbar encoder.
- 10 A method of making an assembly of microbar encoders 19. comprising:
  - making a first plurality of microbar encoders according to the (a) method of claim 1 and
  - making a second plurality of microbar encoders according to the (b) method of claim 1, wherein the first and second plurality of microbar encoders have different
  - 20. A method of making an assembly of microbar sensors comprising:

characteristic detectable signals.

- making a first plurality of microbar sensors according to the (a) method of claim 18 and
- (b) making a second plurality of microbar sensors according to the method of claim 18,
- 25 wherein the first and second plurality of microbar sensors have different characteristic detectable signals.
  - 21. A microbar encoder produced according to the method of claim 1.
  - 22. A microbar encoder produced according to the method of claim 1, wherein only one layer is deposited.

- 23. A microbar sensor produced according to the method of claim18.
- 24. An assembly of microbar encoders produced according to the method of claim 19.
  - 25. An assembly of microbar sensors produced according to the method of claim 20.